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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/277,171      | 03/26/1999  | CAMERON BOLITHO BROWNE | 169.1167            | 3147             |

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EXAMINER

HAVAN, THU THAO

ART UNIT PAPER NUMBER

2672

DATE MAILED: 07/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/277,171

Applicant(s)

BROWNE, CAMERON BOLITHO

Examiner

Thu-Thao Havan

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 7/01/02 for cpa.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings in this application are objected to by the Draftsperson as informal. Any drawing corrections requested, but not made in the prior application should be repeated in this application if such changes are still desired. If the drawings were changed and approved during the prosecution of the prior application, a petition may be filed under 37 CFR 1.182 requesting the transfer of such drawings, provided the parent application has been abandoned. However, a copy of the drawings as originally filed must be included in the 37 CFR 1.60 application papers to indicate the original content.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims **1-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker (US patent no. 5,861,891).

Re claims **1, 24, and 29-30**, the prior art Becker had:

A.) The step of providing a plurality of shape elements, each shape element defining a surface (col. 3, lines 47-67; col. 4, lines 1-14; fig. 2-4 and 7A). Figures 2-4 and 7A in Becker clearly discloses the plurality of shapes of a surface.

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B.) The step of providing each of the shape elements with an opacity which varies over its surface (col. 6, lines 34-58; fig. 2-4). Becker teaches a slider or controller is used to vary the value of the shape elements over its surface. Figures 2-4 of Becker disclose this part of the claim.

Furthermore, he teaches producing a smooth volume image in an opacity splat plot (col. 2, lines 17-28). Becker teaches an image consisting of shapes in relations to opacity. Also, Becker providing each of the shape elements with an opacity which varies over its surface when he discloses the variation in opacity from a peak at the center to zero point (col. 4, lines 9-13; fig. 7a).

C.) The step of arranging the shape elements in an overlapping fashion to fill a predetermined region of the images such that the region has a substantially uniform opacity (col. 1, lines 31-38; col. 2, lines 17-28; col. 3, lines 47-61; col. 4, lines 9-14; col. 8, lines 14-41; fig. 2-4 and 7A).

The shape elements of Becker are in overlapping fashion. Becker discloses the many overlapping data points in figures 2-4. Therefore, the overlapping data points generate a shaded texture as disclose in figure 7A. Becker discloses the step of arranging the shape elements in an overlapping fashion to fill a predetermined region of the images such that the region has a substantially uniform opacity when he discloses “the uniform bins...[and] the splats overlap producing a smooth volume image in a splat plot.” Bins are made up of uniform clusters of data points. Also, the splats are made up of opaque data points that can form a shaded triangle or any other shapes. Furthermore, Becker teaches the bin positions define the order of bins along each discretized axis.

D.) The A computer storage medium bearing one or more computer software programs for execution on a computer, the computer software program or programs including compiled or uncompiled software instructions (col. 8, lines 28-67; col. 9; fig. 5).

However, Becker fails to explicitly teach the step of rendering the shade elements for output to a printer or display device. Nevertheless, Becker teaches the invention implement in the computer system. Becker does not use the word “printer” but a computer system would include a printer to output images. In figure 1, Becker discloses the displaying of splat plot which is the disclosing of the shade elements for output to a display device. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the step of rendering the shade elements for output to a printer or display device because Becker teaches the display of splat plot and the gaussian texture (col. 1 and 2; col. 8, lines 28-67; col. 9; fig. 1, 5, and 7A).

Re claims **2-6 and 25-26**, Becker discloses the limitations in these claims (col. 1, lines 10-53; col. 3, lines 55-61) by teaching the various sizes of the glyphs in his invention.

Re claims **7-11 and 27-28**, Becker discloses the focal point and its location (col. 3, lines 13-38; col. 4, lines 9-14). The axis in Becker discloses the focal point. Becker teaches the Gaussian functions, which include the focal point and its location.

Re claim **12**, Becker discloses the predetermined function is exponential or linear (col. 6-8; fig. 6).

Re claims **13-23 and 31**, the limitations of claims 13-23 and 31 are analyzed as discussed with respect to claims 1, 24, and 29-30 above.

### **Inquiries**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu-Thao Havan whose telephone number is (703) 308-7062.

The examiner can normally be reached on Monday to Thursday from 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



**MICHAEL RAZAVI**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**

Thu-Thao Havan

July 25, 2002